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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,199	07/14/2003	Todd C. Adelman	200310022-1	6368

7590 03/06/2006
HEWLETT-PACKARD COMPANY
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EXAMINER

GOMA, TAWFIK A

ART UNIT PAPER NUMBER

2653

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/619,199	ADELMANN, TODD C.	
	Examiner	Art Unit	
	Tawfik Goma	2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| <p>✓ 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>✓ 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date ____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date. ____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: ____.</p> |
|---|---|

DETAILED ACTION

Claim Objections

Claim 16 is objected to because of the following informalities: The claim recites the limitation "the redundant perturbations" which is not previously recited in the claim. The claim should be rewritten to recite "redundant perturbations." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Binnig et al (US 5835477).

Regarding claim 1, 14 and 19 Binnig discloses a storage device, system and method comprising: a probe having plural tips (fig. 5A); and a storage medium having a surface in which storage cells are to be formed (fig. 8), the plural tips of the probe to form plural perturbations in the surface in at least one of the storage cells for representing a data bit (figs 5a, 6).

Regarding claim 2 and 16, Binnig discloses wherein the plural perturbations are redundant perturbations for representing the data bit (fig. 6).

Regarding claim 3 and 15, Binnig further discloses wherein the probe comprises a cantilever with the tips attached to and extending outwardly from the cantilever (col. 3 lines 19-27).

Regarding claim 4, Binnig further discloses wherein the probe is adapted to scan the perturbations of the at least one storage cell with at least one of the tips to detect a state of the data bit as being either a logical "0" or logical "1." (col. 5 lines 31-53 and col. 6 lines 58-63)

Regarding claim 5, Binnig further discloses wherein presence of at least one perturbation in a storage cell represents a first state of the data bit, and absence of perturbations in a storage cell represents a second state of the data bit, the storage device further comprising a detector to indicate that the at least one storage cell contains a data bit at the first state in response to the probe detecting at least one of the redundant perturbations (41, 42, 43, figs. 4, 5A and col. 8 lines 43-58) .

Regarding claim 6 and 20, Binnig further discloses a second probe, the second probe having plural tips to form plural perturbations in the surface in another storage cell to represent a second data bit (col. 13 lines 1-9).

Regarding claim 7 and 17, Binnig further discloses wherein the probe is part of an array of probes; each probe in the array of probes having plural tips (fig. 8 and col. 13 lines 1-9).

Regarding claim 8 and 21, Binnig further discloses a substrate in which the probe is formed (col. 3 lines 23-25); and an actuator to move at least one of the substrate and

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the storage medium to adjust relative positions of the substrate and the storage medium (col. 5 lines 55-66n and col. 6 lines 7-22).

Regarding claim 9 and 18, Binnig further discloses wherein the probe is adapted to form plural groups of redundant perturbations on the surface of the storage medium to write plural data bits in respective storage cells, and the actuator is adapted to scan the probe over the plural groups of perturbations to read the data bits (fig. 6, 8 and col. 5 lines 55-60).

Regarding claim 10, Binnig further discloses wherein the tips of the probe are in contact with the surface of the storage medium to form the perturbations (col. 11 lines 39-46 and claim 4).

Regarding claim 11, Binnig further discloses wherein the tips of the probe are heated to form dents in the surface, the perturbations comprising the dents (col. 4 lines 45-47).

Regarding claim 12, Binnig further discloses wherein fewer than all of the tips of the probe are in contact with the surface of the storage medium to perform a read (col. 6 lines 7-22)

Regarding claim 13, Binnig further disclose wherein the probe comprises a cantilever to which the tips are attached, the cantilever being actuated to a slanted position to engage the fewer than all of the plural tips of the probe to contact the surface of the storage medium (col. 6 lines 27-37).

Conclusion

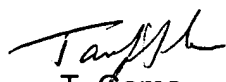
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miyazaki et al (US 5412597) discloses a slope detection method for a recording apparatus using plural tips. Sakai et al (US5831961) discloses an information processing apparatus with a multiple probe configuration. Koyanagi et al (US 5808977) discloses a tracking method wherein each cantilever has a tracking tip and a reading tip.

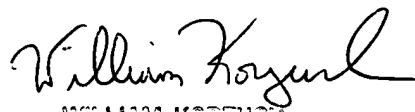
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tawfik Goma whose telephone number is (571) 272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


T. Goma
3/1/2006


WILLIAM KORZUCH
SUPERVISOR
ART UNIT 2653
COMMUNICATIONS SECTION